

There is no other world than this
one





Health Effects of PCBs in the environment

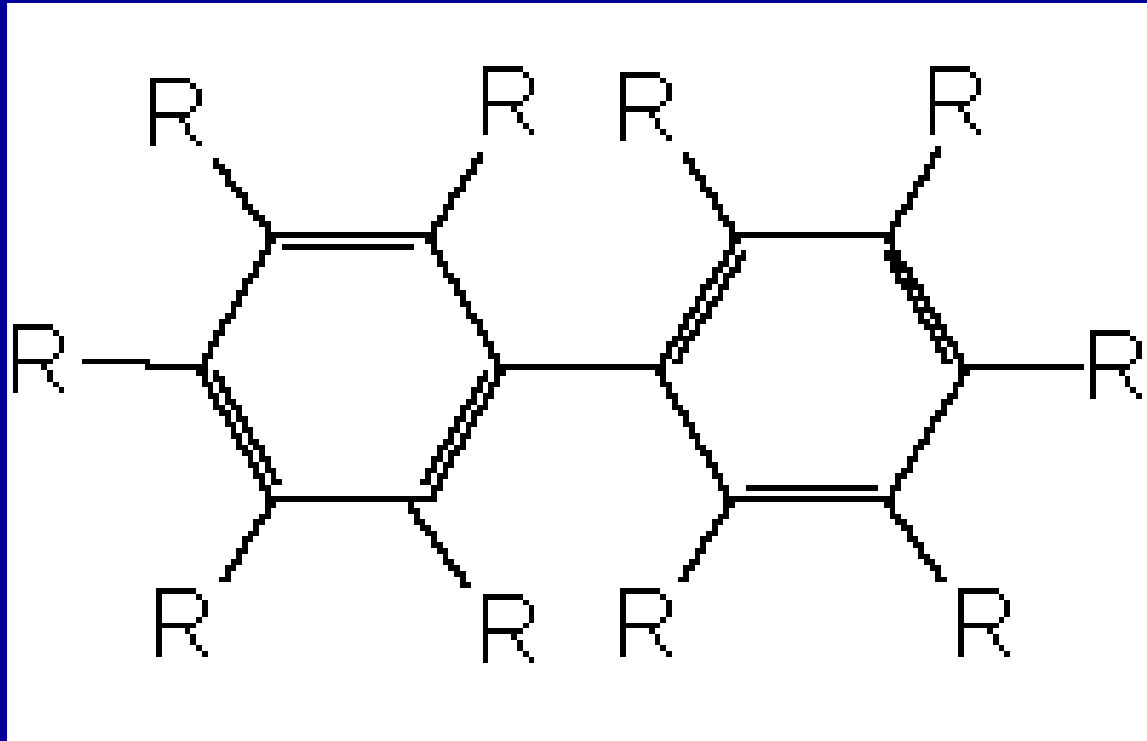
Persistent Organic Pollutants

- Chemical substances that
 - Persist in the environment
 - Bioaccumulate through the food web
 - Pose a risk of adverse effects to human health
 - Threaten the whole globe via long range transport



PCBs

- Polychlorinated biphenyls



PCBs

- Invented in the 1920s
- Mixtures of up to 209 individual compounds
- Used as coolants and lubricants in transformers and other electrical equipment
- Ballast of fluorescent lights
- Microscope oils



PCBs

- Manufacture in US stopped in 1977
 - Recognition of persistence in environment
 - Recognition of health effects
- PCBs are still present in the air, water and soil due to release during manufacture, use and disposal; and from hazardous waste sites, illegal disposal, leaks



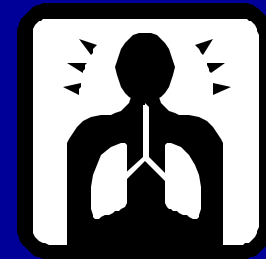
PCBs—sources of exposure

- Food
 - PCBs are taken up by small organisms and fish
 - PCBs accumulate in fish and marine mammals to levels many times higher than the levels in water
 - Humans are exposed by eating contaminated food



PCBs—sources of exposure

- Breathing air near hazardous waste sites
 - Many PCBs are volatile



- Drinking contaminated water



PCBs—sources of exposure

- Using old (made before 1977) light fixtures and appliances
- Occupational exposure repairing old PCB transformers, electrical equipment



PCBs—Health Effects

- Acute exposure
 - Rashes, including chloracne
 - Liver damage
- Long-term exposure
 - Liver, biliary tract cancer
 - Immune suppression
 - Thyroid function disruption



PCBs—health effects--children

- Babies born to women who consumed PCB contaminated fish (Michigan, Massachusetts, North Carolina, New York)
 - Abnormal responses on tests of infant behavior—which may last for several years
 - Learning problems
 - Effects on the immune system



PCBs-Health Effects

- Tests for exposure
 - There are no routine tests for exposure
- **JUST ABOUT EVERYONE IN THE INDUSTRIALIZED WORLD HAS SOME LEVEL OF PCBs IN THEIR BODIES**
- Tests may show elevated levels but cannot:
 - Determine when and how long you were exposed
 - Determine if you will develop a health effect

PCBs-Health Effects—Risk Reduction

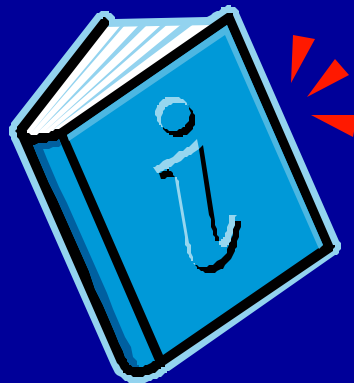
- Don't eat fish or wildlife from contaminated sites (follow fish advisories)
- Stay away from contaminated/hazardous sites
- Do not take work clothes home if you are exposed to PCBs in the workplace



PCBs—Health Effects

For more information

- Agency for Toxic Substances and Disease Registry (ATSDR)
<http://www.atsdr.cdc.gov/toxfaq.html>
- National Institute of Environmental Health Sciences <http://www.ehponline.org/>



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